Amendments to the Claims

Please amend the claims according to the following directions. Please replace all prior versions and listings of claims in this application with the following list of claims:

1-21. (cancelled)

22. (currently amended) A method ~~of handling a computer error at a firmware level~~, comprising:

invoking a firmware error handler in response to a notification of a computer error;

gathering information within the firmware error handler about a plurality of error events;

formatting the gathered information as an error record, said error record including a record header delineating the beginning of the error record, and a variable number of sections, each section having a section header and a variable-length section body, wherein each section corresponds to one of the plurality of error events; and

storing the error record in a non-volatile storage medium.

23. (previously presented) The method of claim 22, wherein the record header includes:

a monotonically increasing record identifier;

a revision number;

an error severity value;

a time stamp; and

a record length.

24. (previously presented) The method of claim 22, wherein the section header includes:

a global unique identifier corresponding to a specific device; and

a section length field containing the length of the section.

25. (currently amended) A machine-readable medium having stored thereon executable instructions that when executed by a processor, cause the processor to ~~log computer errors at a firmware level by~~:

~~receiving an error~~ receive notification of an error;

invoke a firmware error handler in response to the notification;

~~gathering~~ gather information about a plurality of outstanding error events;

~~formatting~~ format the gathered information as a variable-length error record, said variable-length error record having a format including a record header delineating the beginning of the error record, and a variable number of sections, each section having a section header and a variable-length section body, wherein each section corresponds to one of the plurality of error events;

~~storing~~ store the error record in a memory; and

when requested, ~~outputting~~ output the error record to an agent.

26. (currently amended) A method ~~of logging computer errors in a computer system~~, comprising:

receiving an indication of an error condition within a computer system;

invoking a firmware error handler within the computer system~~, said firmware error handler receiving an indication of an error condition within the computer system~~;

collecting a plurality of device error states, each device error state including information describing the current operational condition of a peripheral device within the addressing range of a processor executing in the computer system;

assembling, within the firmware error handler, said plurality of device error states into a variable-length error record associated with the error condition, said variable-length error record having a format including a record header delineating the beginning of the error record, and a variable number of sections, each section corresponding to one of the plurality of device error states; and

storing the variable-length error record in a non-volatile memory.

27. (previously presented) The method of claim 26, further comprising:

outputting the variable-length error record to an external agent, and

freeing for reuse the memory associated with the variable-length error record.

28. (previously presented) The method of claim 26, wherein the record header includes:

a record identifier; and

a record length.

29. (previously presented) The method of claim 26, wherein the record header includes:

a severity value associated with the error condition; and

a time stamp associated with the error condition.

30. (previously presented) The method of claim 26, wherein the record header includes:

a platform identifier associated with the computer system.

31. (previously presented) The method of claim 26, wherein each section includes:

a unique identifier corresponding to the peripheral device associated with the section.

32. (previously presented) The method of claim 31, wherein each section further includes error recovery information for the peripheral device associated with the section.

33. (cancelled).

34. (new) The machine-readable medium of claim 25, wherein the executable instructions stored thereon when executed by the processor further cause the processor to free for reuse the memory associated with the variable-length error record.

35. (new) A computer system, comprising:

a computer processor coupled to a bus; and

a non-volatile memory in communication with the bus, the non-volatile memory storing instructions, which when executed by the computer processor, cause the processor to:

receive an indication of an error condition within the computer system,

collect a plurality of device error states, each device error state including information describing the current operational condition of a device within the addressing range of the computer processor,

assemble said plurality of device error states into a variable-length error record associated with the error condition, said variable-length error record having a format including a record header delineating the beginning of the error record, and a variable number of sections, each section corresponding to one of the plurality of device error states, and

store the variable-length error record in the non-volatile memory.

36. (new) The computer system of claim 34 wherein the processor is to

output the variable-length error record to an external agent, and

free for reuse the memory associated with the variable-length error record.

37. (new) The computer system of claim 34 wherein the record header includes:

a record identifier; and

a record length.

38. (new) The computer system of claim 34 wherein the record header includes:

a severity value associated with the error condition; and

a time stamp associated with the error condition.

39. (new) The computer system of claim 34 wherein the record header includes:

a platform identifier associated with the computer system.

40. (new) The computer system of claim 34 wherein each section includes:

a unique identifier corresponding to the peripheral device associated with the section.

41. (new) The computer system of claim 40, wherein each section further includes error recovery information for the peripheral device associated with the section.

42. (new) An error logging apparatus, comprising:

a non-volatile memory coupled to a bus, said memory having stored therein executable instructions that when executed by a processor in response to notification of an error condition, cause the processor to:

gather a plurality of device error states, each device error state including information describing the operational state of a device interoperably connected to the bus;

format the gathered device error states as a variable-length error record, said variable-length error record having a format including a record header delineating the beginning of the error record, and a variable number of sections, each section having a section header and a

variable-length section body, wherein each section corresponds to one of the plurality of error events;

store the error record in a memory; and

when requested, output the error record to an agent.

43. (new) The error logging apparatus of claim 42 wherein said processor is to free for reuse the memory associated with the variable-length error record.

44. (new) The error logging apparatus of claim 42 wherein the record header includes:

a record identifier; and

a record length.

45. (new)The error logging apparatus of claim 42 wherein the record header includes:

a severity value associated with the error condition; and

a time stamp associated with the error condition.

46. (new) The error logging apparatus of claim 42 wherein the record header includes:

a platform identifier associated with the error logging apparatus

47. (new) The error logging apparatus of claim 42 wherein each section includes:

a unique identifier corresponding to the peripheral device associated with the section.

48. (new) The error logging apparatus of claim 47, wherein each section further includes error recovery information for the peripheral device associated with the section.